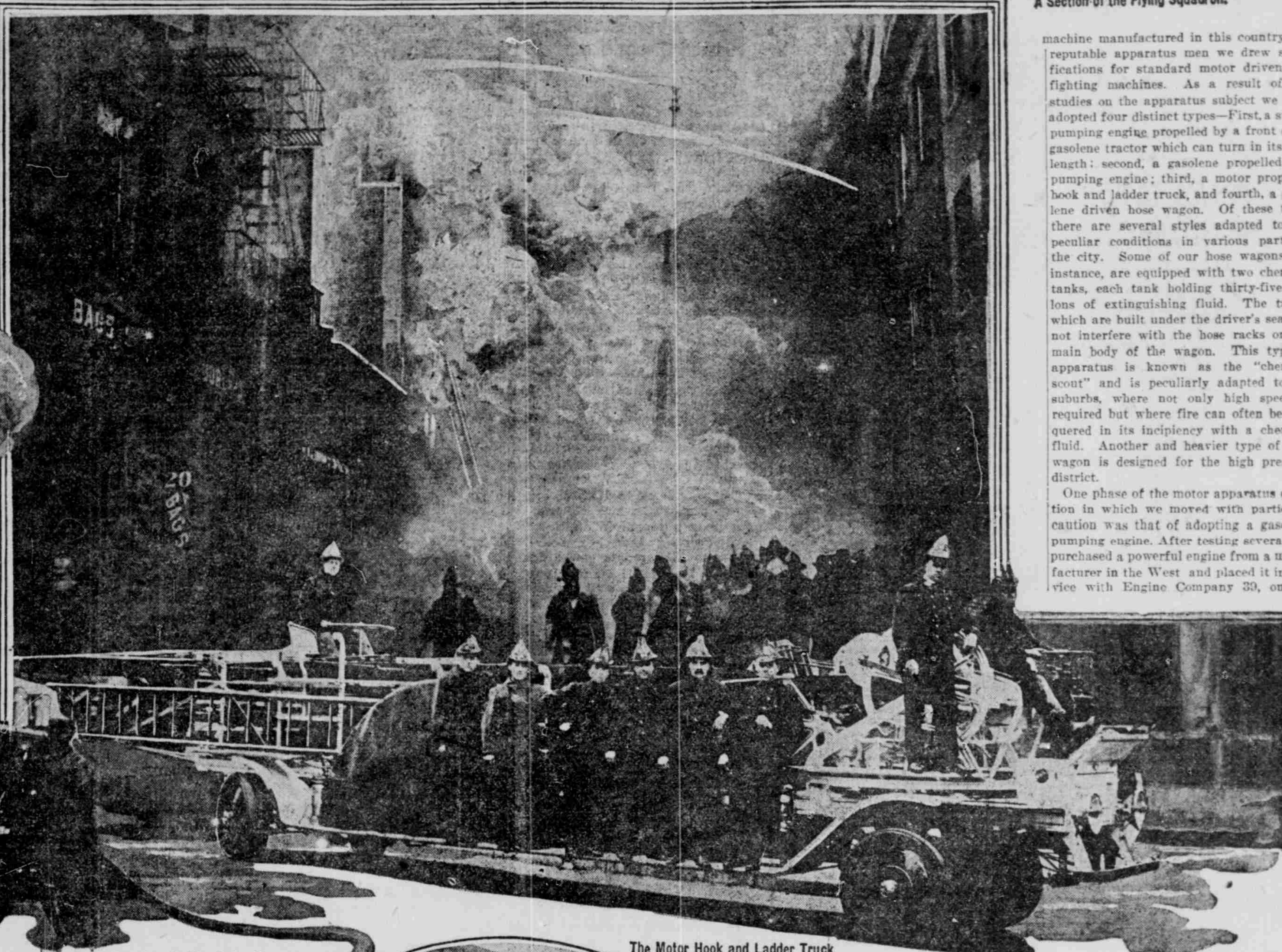


# FIRE BATTLES of NEW YORK'S "FLYING" SQUADRON.

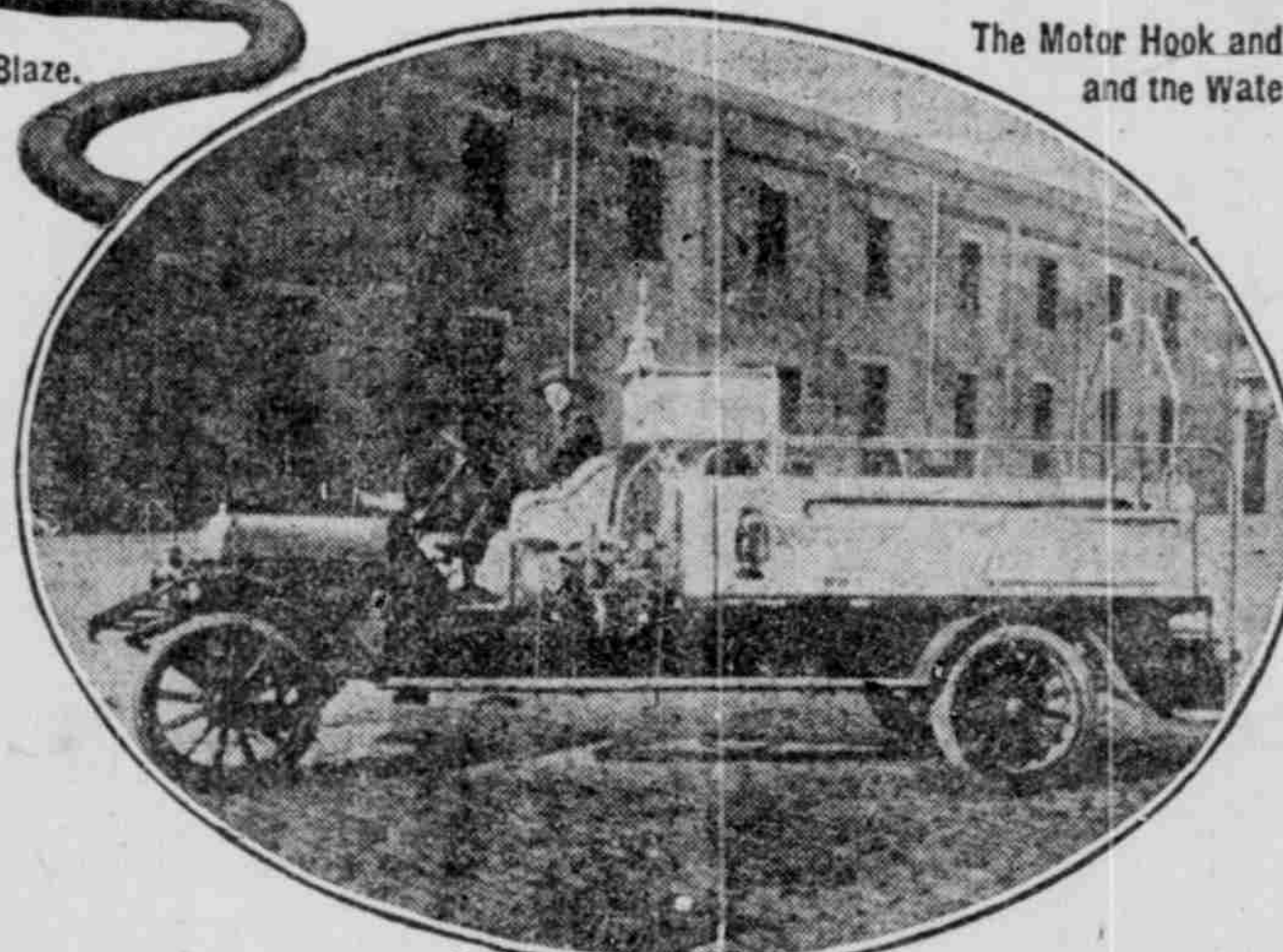


Motor Water Tower.



One of the Flying Squadron Putting Out a Blaze.

The Motor Hook and Ladder Truck and the Water Tower at a Blaze.



Chemical "Scout" Hose Wagon.

A Section of the Flying Squadron.

machine manufactured in this country by reputable apparatus men we drew specifications for standard motor driven fire fighting machines. As a result of our studies on the apparatus subject we have adopted four distinct types—First, a steam pumping engine propelled by a front drive gasoline tractor which can turn in its own length; second, a gasoline propelled and pumping engine; third, a motor propelled hook and ladder truck, and fourth, a gasoline driven hose wagon. Of these types there are several styles adapted to the peculiar conditions in various parts of the city. Some of our hose wagons, for instance, are equipped with two chemical tanks, each tank holding thirty-five gallons of extinguishing fluid. The tanks, which are built under the driver's seat, do not interfere with the hose racks on the main body of the wagon. This type of apparatus is known as the "chemical scout" and is peculiarly adapted to the suburbs, where not only high speed is required but where fire can often be conquered in its incipency with a chemical fluid. Another and heavier type of hose wagon is designed for the high pressure district.

One phase of the motor apparatus question in which we moved with particular caution was that of adopting a gasoline pumping engine. After testing several we purchased a powerful engine from a manufacturer in the West and placed it in service with Engine Company 39, on the

BY JOSEPH JOHNSON,  
New York Fire Commissioner.



JOSEPH JOHNSON

Y the flashing of a signal from Fire Headquarters, on the upper east side of Manhattan Island, seventy-two modern motor propelled fire fighting machines could be mobilized in a few minutes around a blaze in practically any part of the city. These powerful motor vehicles for fighting fire constitute the flying squadron of New York City's Fire Department. They are the product of the last three years of development in fire fighting here.

In a few years New York's entire department will be called a "flying squadron," for the era of fire horses will have passed and the city's Fire Department placed entirely on a motor basis. The superiority of motor fire apparatus over that of the horse drawn type has been clearly demonstrated during the last year or two. In the first place the motor machines are far swifter than are the horses. An average speed of thirty-five miles an hour can be maintained by these motor engines and hose wagons and by the scout chemical wagons, no matter what the length of the run may be. Speed in responding to an alarm is vital in our work. Each minute of delay means the fight will be harder and the fire a menace to surrounding property.

Our fire horses—as good as, at least as any others in the world; better than most—can drag a heavy apparatus at the rate of twelve miles an hour for the first half hour in responding to an alarm. After that their speed slackens until, if the run is a long one, they are travelling practically at a walk by the time the blaze is reached. In hill climbing and in ploughing through mud or heavy snow the motor apparatus also demonstrates its superiority over the fire horses. Duffy's Hill, one of our steepest, on which new apparatus is tested, often staggers our best fire horses. The motor apparatus takes it on the run.

Another determining feature in the motorization of New York's Fire Department was the economy in maintenance of motor vehicles. When, not responding to fires there is no expense attached to maintenance. With the horse drawn apparatus the case is different. The horses have to be fed regularly no matter whether they have to respond to fires or not. Both efficiency and economy in motorization have been demonstrated by actual experience.

When one looks back through the short span of years to the days of New York's volunteers and the crude hand pumps that were used he must be impressed with the wonderful evolution in the method of fighting fires that the last two generations has produced. This evolution has been a necessary one. In the days of the hand pumps, when the volunteer companies often fought each other before turning their attention to the fire, there were no skyscrapers in New York. The tallest buildings were about three stories in height. Even at that the hand pumps could scarcely lift water to the roofs.

As the height of New York's buildings

increased there came the need for greater water pressure. And so there came, first, the steam pumping engine—a crude affair indeed when compared with the present type of powerful water lifting machine. New York's engines of the first class today pump 900 gallons of water a minute. A comparison between this type and the hand pump of our forefathers makes the hand pump seem ludicrously inadequate, even for those days of small buildings. When we began motorizing the Fire Department there started the "passing of the fire horses." Some of New York's sentimental citizens bemoaned the fact that these noble animals were to be relegated to the past. The nature of the service of these fire beasts, their lovable dispositions and the intelligence shown by many of them have endeared the fire horses to New Yorkers. I perhaps am as sentimental as the average man. In a way I regret to see them go; but, after all, the matter of efficiency and economy is of too great importance to the taxpayers of the city to allow sentimentality to interfere. Already we have retired nearly four hundred fire horses. This year we are pur-

chasing not a single horse, nor do I believe we will ever purchase horses again. In all there are 104 motor vehicles either in service in our Fire Department or under contract for delivery during the present year. One hundred and twenty-six of these are in service now and thirty-eight will be delivered before the cold weather arrives. Here is the list of New York's motor vehicles on duty to-day:—

Apparatus.	
Second size motor propelled steam fire engines	21
Steam fire engine propelled by couple-gear tractor	1
Gasoline propelled and pumping engine	1
Combination hose and chemical wagons	26
Motor driven hose wagons	15
Motor driven hose wagon (boat tender)	1
Gasoline-electric aerial hook and ladder trucks	4
Other Motor Vehicles.	
Touring cars in use by executive officers and bureaus	18
Motor driven delivery trucks	17
Total number of motor vehicles in service	126

Under contract there are:—  
Fire Apparatus.  
Second size motor propelled steam fire engines

85-foot motor driven aerial hook and ladder truck..... 1  
75-foot motor driven aerial hook and ladder trucks..... 8  
65-foot motor driven aerial hook and

ladder trucks..... 17  
Gasoline propelled and pumping engines (not yet awarded)..... 2  
Other Motor Vehicles.  
Two ton motor delivery trucks..... 2  
Total number of motor vehicles under contract ..... 38  
The job of motorizing a fire department such as New York's carries with it difficulties which are not encountered in smaller cities. The character of our buildings—many of the commercial structures taller than any others in the world—necessitates the installation of a heavier type of apparatus than those which are adequate for the average city. Another factor is the great expense involved in motorizing a department in which there are more than six hundred pieces of apparatus. A mistake in the adoption of a standard in the initial stages of motorization might mean the loss of many hundreds of thousands of dollars to the city. When I began the administration of the Fire Department its motorization was one of the first problems. After exhaustive tests of practically every type of

ground floor of Fire Headquarters, as that the apparatus could be observed in service by the members of my apparatus board. This engine, which was christened "The Giant" by some of our newspaper friends, is propelled by a one hundred and twenty-six horsepower gasoline motor. The pump, a piston drive, is operated also by this motor. The apparatus weighs more than six tons. It pumps between 700 and 800 gallons of water a minute. Its speed is thirty-five miles an hour. The "Giant" has been in service now for more than a year.

Another type of motor propelled fire engine—a front drive tractor affair attached to the regulation steam pump—was purchased about the same time as "The Giant," and placed in service in Engine Company 58, at 115th street and Lenox avenue, one of the busiest companies in the city.

The performances of each of these pieces of apparatus were carefully watched. We decided that the part of wisdom would be too adhere to the steam pumping type of engine with a gasoline front drive tractor. This decision was made partly because our old steam engines could be utilized in the motorization and partly because the gasoline pumping engine is still in an experimental stage. Several months ago I ordered twenty-eight more steam fire engines with the front drive tractor and recently we have placed a dozen or more of these in service. The motor propelled hook and ladder trucks, which are driven by gasoline-electric motors, have also been adopted as a standard. The hose wagon problem was the least difficult of all, as it involved no complications which had not already been worked out by the makers of the average commercial trucks.

What the future holds in store for us in the development of apparatus for fighting fires I do not know, but there is small doubt in my mind that the progress of the future will prove even greater than the progress of the past. Some of our aeronauts have suggested the use of the aeroplane in fighting fire from aloft. It does not seem entirely impractical, provided some powerful fire extinguishing bomb or grenade could be dropped from a height sufficiently great to insure the aeronaut's safety from the heat waves. I believe some experiments have been carried on along this line.

I am sure that H. G. Wells or some other of our novelist prognosticators could draw a vivid picture of fighting fire in 1920 with a fleet of aero craft bombarding a burning city with broadsides of bombs which burst as they strike the fire and release some penetrating acid under which the blaze would die. I am not a novelist, however; I am dealing with facts, so I had better leave the predictions as to aeroplanes and their bombs to others.

## AMERICAN BOY SCOUTS TO HIKE TO SAN FRANCISCO.

"CROSS country to the great Pacific" is the slogan most popular in the headquarters of the American Boy Scouts these days. The head scouts are arranging for a trek across the United States, beginning in New York and ending in San Francisco.

Never before has such an ambitious undertaking been entered into by the American Boy Scouts. Tramping more than two thousand miles seems pretty heavy work, even for Mr. Weston and other professional pedestrians. But Mr. Ernest Gallardo, scout master and captain of the American Boy Scouts, who will be in charge of the San Francisco expedition, has had a great deal of experience in conducting parties of boy marchers before, and he hasn't a bit of doubt that the scouts will make a record journey.

First comes the question of choosing the right scouts for the job. Already Captain Gallardo has heard from a regiment of boys who would like to go, but the head scouts haven't any intention of taking a regiment on such a trip. Only a few picked scouts will be permitted to enter for the long hike.

Accompanying the marchers there will be an automobile truck, which will carry the tents and commissary department of the army. Camp will be pitched every night and the boys will cook all their meals, help to put up their own tents and play camp. Two men accomplished in the art of putting up tents will go along to take some of the heavy work off the youthful shoulders, for Captain



Photo by Paul Thompson.

Bridge Building at Recent Manoeuvres at Hackensack, N. J.

Gallardo has very decided views in regard to physical development and he does not think that too much very heavy work is desirable.

The main object of the trip is not to test the endurance of the boys, nor is it simply to see the country. What Captain Gallardo wishes to do is to make the boys strong and healthy.

"To put into their physical machinery the steam of life by keeping them out in the fresh air and giving them the right sort of exercise, that is the main object of the

trip," says the leader. Captain Gallardo does not believe in physical exercises which strain the body, but in those which train it.

In addition to the benefits to their health it is thought that the boys will gather from the trip a broadened interest in their country and in its history and geography. They will follow the course of modern civilization across the continent and on the way will happen upon many spots dear to the heart of youth because of its association with the early explorers



Photo by Regulo Fabori.

Ernest Gallardo, Captain and Scout Master.